

Abex Corporation

Portsmouth, Virginia
Superfund Program Site Fact Sheet

Type of Facility: Former Brass and Bronze Foundry

Contaminants: Lead (primary)

Funding: Enforcement-funded

Site Description and History

The Abex Corporation Superfund site is in a residential area in the eastern section of the City of Portsmouth. The largest residential area affected was the Washington Park Public Housing Development located north and west of the foundry. The complex housed approximately 160 families. Soil contamination was also found in a two-block area of 20 private homes southwest of the foundry.

From 1928 to 1978, the foundry melted used railroad car journal bearings supplied by railroad companies and recast the material into new bearings. Spent casting sand laden with heavy metals (primarily lead) was disposed in a one-acre area north of the foundry facility. The foundry furnace operation also produced stack emissions of fine particulate material associated with facility processes.

In 1986, EPA identified high lead concentrations in the foundry waste, in soil around the process area, and in off-site soil in residential lots next to the site. In August 1986, EPA entered a Consent Order requiring Abex Corporation to excavate and remove contaminated surface soil from specified areas, cover two disposal areas with asphalt, and erect security fences. Restoration by seeding and sodding was also required at unpaved areas where soil was excavated. On October 10, 1989, the Virginia Department of Environmental Quality (VDEQ), serving as the lead agency, entered into an Administrative Order on Consent, requiring Abex Corporation to conduct a Remedial Investigation / Feasibility Study (RI/FS). The site was listed on the National Priorities List



(NPL) in August 1990. The RI/FS report was completed in February 1992. Abex Corporation conducted a removal action in March 1992, and lead-contaminated soil was removed from some residential areas. The Record of Decision (ROD), which formally outlined the cleanup action for Operable Unit 1, was signed on September 29, 1992. The ROD identified two Operable Units (OUs).

- OU-1 consisted of excavation, stabilization and removal of contaminated soil and waste sands at the site and the soils in the surrounding properties within a 700-foot radius of the site, and demolition of the facility buildings. Excavated areas were filled and revegetated.
- OU-2 included further investigation of soils beyond the 700-foot radius, groundwater, and ecological impacts.

An Amendment to the ROD was issued in August of 1994. A formal letter of concurrence was sent by VDEQ on August 9, 1994. The revised remedy was based upon the premise that a residential neighborhood, a playground and some row houses would be rezoned commercial/industrial, and the institutional controls described in the remedy be in place no later than the completion of the preliminary remedial design for the remedy.

The major requirements of the remedy were:

- Excavation and removal of lead-contaminated soil above 500 ppm in residential areas not addressed in the March 1992 removal to the water table.
- Excavation and removal of soil contaminated with lead above 500 ppm in the top foot, and additionally soil contaminated with lead above 1000 ppm between one foot and two feet in commercial and/or industrial areas, with a synthetic warning layer placed below that.
- Demolition and removal of all structures associated with foundry operations on the Abex Lot, including excavation, stabilization, and off-site disposal of contaminated soils.

The ROD also required stabilization of soils, as necessary, temporary relocation of residents, as necessary, air monitoring during operations, placement of clean backfill, and revegetation.

In December 1995, the Abex Corporation, the City of Portsmouth, and the Portsmouth Redevelopment and Housing Authority (PRHA) agreed to design and conduct the cleanup work by signing a Consent Decree with EPA.

In May 1997, Abex demolished the foundry buildings and the five Seventh Street row homes. In January 1999, Abex began major soil excavation work mainly throughout the OU-1 area of the site. Some local residents had to be relocated during this work. The work was completed in March 2000. Emergency removal work on dust in the heating ducts and furnaces in each Washington Park apartment was also completed by February 2000.

Threats and Contaminants

Lead was the contaminant of principal concern at the site due to its known health effects and widespread presence in surface and subsurface soil in the residential areas and the foundry properties. Other contaminants present, along with lead, at levels of concern in residential areas included antimony, nickel, tin, copper, and zinc. These contaminants were all known to be present in the waste sands from the foundry operation. Other contaminants present at levels of concern on the foundry property, and in adjacent disposal areas, included cadmium, chromium, silver, polynuclear aromatic hydrocarbons (PAHs), and polychlorinated biphenyls (PCBs).

Current Site Status

The final phase of the OU-1 soil cleanup is nearly complete following the demolition of the Washington Park Housing Complex, and the removal of sidewalks and streets completed in 2005. A PRHA warehouse will be built on part of the site in 2007.

The OU-2 phase of the cleanup work began in the fall of 2001. This phase includes soil removal at contaminated properties beyond the OU-1 area. This work should be completed by the end of 2006. Also, groundwater and ecological studies will be carried out to determine if there are any impacts from the site. These studies may be completed in 2007. At that time, there will be a determination if any further work will need to be done at this site.

A five-year review for OU-1 was issued in September 2002 and the next five-year review will be completed in 2007.

Community Relations and Concerns

Area citizens, civic leaders, and local officials were quite concerned about the past and present health effects of lead. Many public meetings, informal workshops and small-group meetings have been held with them to listen to their concerns and suggestions. Supplemental lead education and prevention materials were researched and disseminated. Community Relations staff members stay in contact with Portsmouth City officials.

The Community Relations Plan was updated by EPA for the Remedial Design/Remedial Action (RD/RA) phase. Concerns included the removal action, the disruption from construction during remedial activities, the health effects from lead, especially in children, and the effect on property values.

EPA held a public availability session in September 2001 that included a presentation of the current site status and plans for the future.

VDEQ Representative	Information Repository
<p>Thomas D. Modena, P.E. Remedial Project Manager Virginia Department of Environmental Quality P. O. Box 1105 Richmond, VA 23218 (804) 698-4183, Fax (904) 698-4234 E-mail: tdmodena@deq.virginia.gov</p>	<p>Portsmouth Public Library 601 Court Street Portsmouth, VA 23704 (757) 393-8501</p>